

ON THE AUSTRALIAN SPECIES OF CREOPHILUS (COLEOPTERA:  
STAPHYLINIDAE).

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(Communicated by J. W. T. Armstrong.)

(Nine Text-figures.)

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INTRODUCTION.

Three species of *Creophilus* have been recorded from Australia, *erythrocephalus* (Fab.), *lanio* (Er.) and *oculatus* (Fab.).

*Erythrocephalus* is a very well known species and is common in carrion throughout Australia. It has also been recorded from Tahiti and Chile.

*Lanio* is listed by Bernhauer and Schubert (Col. Cat. 57, 1914, 398) as a distinct species, but is stated by Lea (*Trans. Roy. Soc. S. Aust.*, 1925, 229) to be synonymous with *erythrocephalus*. This latter view has apparently been accepted, as no records of *lanio* can be traced in the literature.

Some years ago two specimens (♂, ♀) of a *Creophilus* collected at Lake Burrumbeet, Vic., were received from Mr. M. F. Leask of Ballarat. These were obviously distinct from *erythrocephalus* and agree well with Erichson's description of *lanio*. An examination of the series of *erythrocephalus* in my collection brought to light a further specimen of *lanio* and the British Museum collection provided about a dozen more. In all, well over 100 specimens of "*erythrocephalus*" were examined.

*Oculatus* is recorded by Fauvel (*Ann. Mus. Civ. Gen.*, 1877, 250) as occurring in Australia. This species is very common in carrion in New Zealand, and Lea (l.c.) states that Fauvel's Australian record requires confirmation, at the same time placing the species as a variety of *erythrocephalus*. There is one specimen in my collection from Rockhampton, Queensland (ex Pilcher coll.), and this is the only Australian specimen seen up to the present. The insect would, however, be expected to establish itself fairly quickly should it gain a footing in Australia.

The main purpose of this paper is to point out the differences between *erythrocephalus* and *lanio*, but it has been thought advisable to give, at the same time, full descriptions and figures of the three Australian species of the genus, together with a short key.

CREOPHILUS ERYTHROCEPHALUS (Fabricius). (Text-figs. 1, 4, 9.)

*Staphylinus erythrocephalus* Fabricius, Syst. Ent., 1775, 265.

*Staphylinus unipunctatus* Hope, in Gray, Zool. Misc., 1831, 32.

Head and pronotum shining, elytra (except humeral areas) and abdomen duller. Head red, the disc with a rather small circular black spot, the edge of which is sharply defined; narrowly black around the insertions of the antennae. Pronotum and abdomen black, elytra blue-black, the humeral areas black. Antennae black, segments 7-11 with close-set, short, greyish pubescence. Mandibles, palpi and legs black. Length: 17-22 mm.

*Male.*

*Head* as wide as or somewhat wider than the pronotum, about one and one-half to one and three-fifths times as broad as long,\* distinctly widened behind, the sides practically straight, the posterior angles very distinct, rather sharply rounded (Text-fig. 9), the base almost straight. On the inner margin of each eye, towards the front, with a

\* For the length, the head is measured from the "occipital suture" to the front of the clypeus.

well-marked setiferous puncture and a transverse row of some four similar punctures near the base, the whole surface with rather diffuse, very fine punctules and between these an indistinct ground-sculpture consisting of extremely fine, close-set wavy striae. *Antennae* with the third segment slightly shorter than the second, the fourth subquadrate, slightly broader than long, the fifth to tenth gradually becoming more transverse, the eleventh about twice as long as the tenth, bluntly pointed.

*Pronotum* a little longer than the head, very slightly broader than long, widest in front of middle, the sides slightly rounded, the anterior angles distinct, scarcely rounded, the posterior angles normally very broadly rounded (sometimes much less so\*), the sides slightly emarginate just in front of these angles, the base rounded. Towards the anterior angle on each side with a small patch of rather close punctures, each of which bears a short seta; elsewhere impunctate and without visible ground-sculpture.

*Scutellum* rather closely punctured and with dark pubescence.

*Elytra* about one and one-sixth times as long as pronotum, very slightly broader than long, a little widened behind. A small area around each humeral angle impunctate and with, at most, traces of a rather coarse ground-sculpture; elsewhere closely punctured and with dark pubescence, the surface between the punctures reticulate.

*Tergites of abdomen* finely and closely punctured and with dark pubescence, the surface between the punctures with a ground sculpture consisting of extremely fine and close, transverse, wavy striae. The *sternites* sculptured as the tergites. The apical margin of the eighth sternite with a slight, median, triangular emargination.

*Aedeagus* as Text-figs. 1 and 4.

#### Female.

*Head* at most as wide as pronotum, often distinctly narrower, about one and two-fifths to one and one-half times as broad as long, rather less widened behind than in the male, with the posterior angles rather more broadly rounded. Sternite of the eighth abdominal segment rounded apically.

In other respects, outwardly similar to male.

The differences between this species and *lanio* are discussed after the description of the latter.

#### CREOPHILUS LANIO (Erichson). (Text-figs. 2, 5, 7, 8.)

*Staphylinus lanio* Erichson, Gen. et Spec. Staph., 1840, 352.

*Staphylinus erythrocephalus* Fabricius, Syst. Ent. 1775, 265 ex parte.†

*Staphylinus oculatus* var. Gravenhorst, Mon. Micr., 1806, 127.

Head and pronotum shining, the elytra (except humeral areas) and abdomen somewhat duller. Head red, the disc with a rounded black spot which is wider than long, with the edge not sharply defined; narrowly black around the insertions of the antennae. Pronotum and abdomen black, elytra black, with a purplish reflection. Antennae black, segments 7-11 with close, short greyish pubescence. Mandibles, palpi and legs black. Length: 17-23 mm.

#### Male.

*Head* rather variable in size and shape. In large specimens (Text-fig. 7) somewhat broader than the pronotum, rather more than one and three-fifths times as broad as long, distinctly widened behind, the sides almost straight, the posterior angles rather broadly rounded, the base almost straight. In small specimens (Text-fig. 8) narrower than the pronotum, rather less than one and one-third times as broad as long, distinctly less

\* In all the specimens seen, except two, the posterior angles of the pronotum, though showing some variation, are broadly rounded and sometimes hardly discernible. The two exceptions (two females collected by Mr. J. W. T. Armstrong, near Nyngan, N.S.W., and in my collection) have these angles very well marked, just as marked as in *lanio*.

† The type material of *S. erythrocephalus* Fab. is in the British Museum collection and consists of two specimens. One of these is the species normally known as *erythrocephalus* Fab., the other is *lanio* Er. To save confusion in nomenclature, the first mentioned specimen is taken as the type of the species.

widened behind, the sides rounded, the posterior angles very broadly rounded. Various intermediates occur between the above-mentioned two forms. Sculpture similar to that of *erythrocephalus*.

*Pronotum* similar to that of *erythrocephalus*, but with the posterior angles always well marked.

*Aedeagus* as Text-figs. 2 and 5.

In other respects similar to *erythrocephalus*.

#### *Female.*

*Head* at most as wide as pronotum, usually narrower, about one and one-third to one and one-half times as broad as long, widened behind, the posterior angles broadly rounded.

In other respects, outwardly similar to male.

The head in the males of this species is very variable in size and shape, much more so than is the case with *erythrocephalus*, but, even in large specimens, the posterior angles are distinctly more rounded than in the latter species (cf. Text-figs. 7 and 9). The black discal spot on the head is distinctly larger than in *erythrocephalus*, sometimes markedly so, and is broader than long, with the edge rather diffuse, instead of being sharply defined and circular.

The posterior angles of the pronotum are always distinct and may normally be used as a determinative feature, though, as mentioned above, specimens of *erythrocephalus* are occasionally encountered which have these angles just as marked.

The elytra are constantly black in colour, with a purplish reflection, in marked contrast to the blue-black of *erythrocephalus*.

As will be seen from a comparison of Text-figs. 1 and 2, the aedeagi, particularly the median lobes, of *erythrocephalus* and *lanio* are quite different and show without doubt that the two species are distinct.

From material examined, *lanio* appears to be rather an uncommon species, though it has most probably been mixed with *erythrocephalus* in collections. Having regard to the fact that its habits would be expected to be the same as those of *erythrocephalus*, which is common in carrion throughout Australia (as are other species of the genus in the countries where they occur) it would be thought that *lanio* would be abundant where it occurs. All the specimens seen have been collected in the south-eastern part of Australia and the species may be restricted to that area. Specimens have been seen from the following localities: Lake Burrumbeet, Vic.; M. F. Leask (Steel coll.); Tasmania: M. F. Leask (Steel coll.); Victoria (British Museum, ex Sharp coll.); Tasmania (British Museum, ex Sharp coll.).

CREOPHILUS OCULATUS (Fabricius). (Text-figs. 3 and 6.)

*Staphylinus oculatus* Fabricius, Syst. Ent., 1775, 265.

Head and pronotum shining, elytra (except humeral areas) and abdomen duller. Head black, with a small red area on each side between the eye and the posterior angle, pronotum black, elytra black, with a slight brownish reflection, abdomen black. Antennae black, segments 7-11 with close set, short, greyish pubescence. Mandibles, palpi and legs black. Length: 14-23 mm.

#### *Male.*

*Head* rather variable in size and shape, in large specimens slightly wider than the pronotum, about one and three-fifths times as broad as long, scarcely widened behind, the sides almost straight, the posterior angles broadly rounded, the base almost straight. In small specimens, slightly narrower than the pronotum, a little less than one and one-third times as broad as long, slightly widened behind, the sides straight, the posterior angles broadly rounded. Various intermediates occur between the above-mentioned two forms. Sculpture similar to that of the preceding two species.

*Pronotum* similar to that of *erythrocephalus*, the posterior angles broadly rounded and not very distinct.

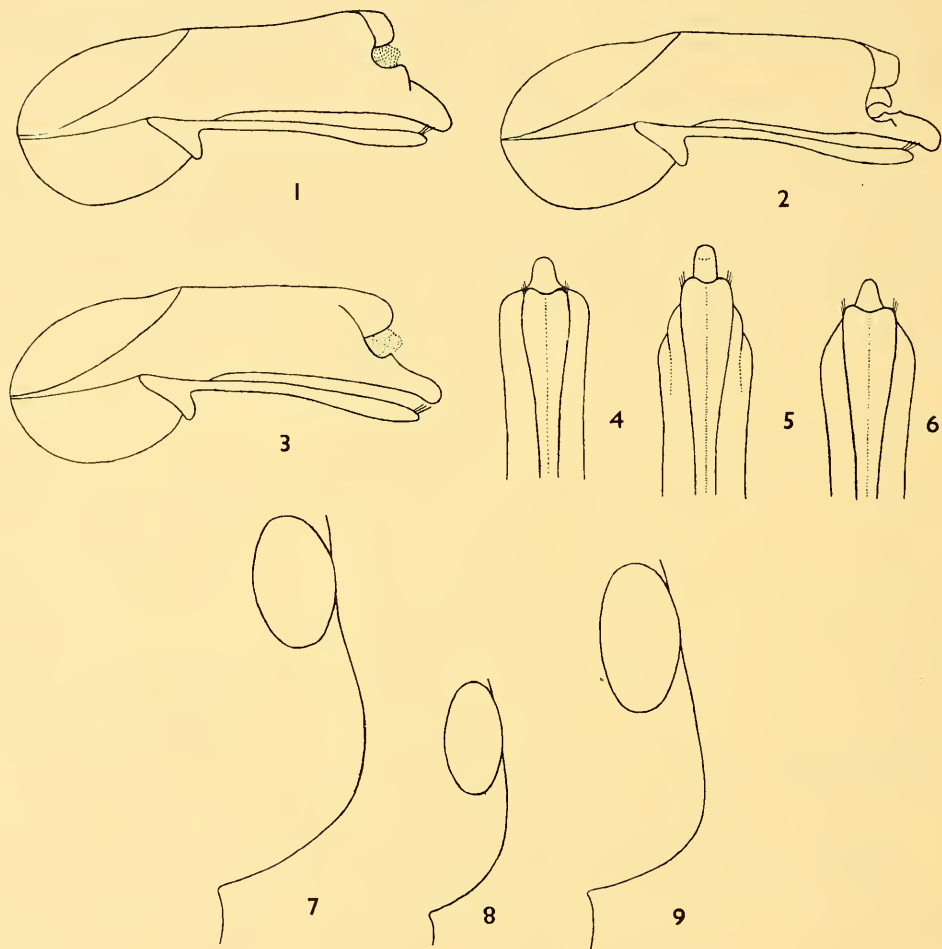
*Aedeagus* as Text-figs. 3 and 6.

In other respects similar to the preceding two species.

*Female.*

*Head* rather small, distinctly narrower than the pronotum, about one and one-third times as broad as long, slightly widened behind, the sides straight, the posterior angles broadly rounded.

In other respects, outwardly similar to male.



Text-figures 1-9.

1. *Creophilus erythrocephalus* (Fab.). Aedeagus, ventral view. 2. *Creophilus lanio* (Er.). Aedeagus, ventral view. 3. *Creophilus oculatus* (Fab.). Aedeagus, ventral view. 4. *Creophilus erythrocephalus* (Fab.). Apical portion of aedeagus, viewed from left. 5. *Creophilus lanio* (Er.). Apical portion of aedeagus, viewed from left. 6. *Creophilus oculatus* (Fab.). Apical portion of aedeagus, viewed from left. 7. *Creophilus lanio* (Er.). Portion of side of head of large male, showing posterior angles. 8. *Creophilus lanio* (Er.). Portion of side of head of small male, to same scale. 9. *Creophilus erythrocephalus* (Fab.). Portion of side of head of male, showing posterior angles.

This species may easily be separated from the preceding two by colour alone. It also differs in the shape of the head and in the form of the aedeagus in the male. It is definitely a distinct species and there seems to be no justification whatsoever for regarding it as merely a variety of *erythrocephalus*, as was done by Lea.



The males show much variation in size and also in the size and shape of the head, though this latter is not as marked as in *lanio*. The shape of the head in the females appears to be remarkably constant, even in very small specimens (14 mm.).

*Key to the Australian Species of Creophilus.*

1. Head red, the disc with a black spot ..... 2  
    Head black, the sides, behind the eyes, red ..... *oculatus* (Fab.)
2. Elytra blue-black, discal spot on head circular, basal angles of head less rounded (Text-fig. 9),  
    aedeagus distinct (Text-figs. 1 and 4) ..... *erythrocephalus* (Fab.)
- Elytra black, with a purplish reflection, discal spot on head transverse, basal angles of head  
    more rounded (Text-figs. 7 and 8), aedeagus distinct (Text-figs. 2 and 5) .. *lanio* (Er.)

